

ABSTRACT

Surfaces containing high purity silica (silicon dioxide) exhibit high loading potential for nucleic acids.

Formulations containing nucleic acids and materials which mask the electrostatic interactions between the nucleic acids and surfaces are disclosed. By masking the phosphate charges of the nucleic acids, undesired interactions may be minimized or eliminated, thereby allowing the covalent bonding of the nucleic acids to the surface to proceed. The use of such formulations additionally minimizes nonspecific binding of the nucleic acids to the surface. Examples of materials to be included in such formulations include cations, xanthines, hexoses, purines, arginine, lysine, polyarginine, polylysine, and quaternary ammonium salts.